

ABSTRACT OF THE DISCLOSURE

[0059] A method of forming an organosilicate layer for use in integrated circuit fabrication processes is provided. The organosilicate layer may be formed by reacting a gas mixture comprising a silicon source, a carbon source, and an oxygen source in the presence of an electric field. After the organosilicate layer is formed, it is treated with a plasma comprising one or more inert gases. The organosilicate layer is compatible with integrated circuit fabrication processes. In one integrated circuit fabrication process, the organosilicate layer is used as a bulk insulating material in a dual damascene structure.